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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,103	12/28/1999	ANOOP GHANWANI	2204/150	9599

2101 7590 04/04/2003

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EXAMINER

PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/473,103	Applicant(s) GHANWAMI, ANOOP	
	Examiner B. Prieto	Art Unit 2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/3/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner. *DRAFTSPERSON*
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. This communication is in response to request for reconsideration filed 01/03/03, claims 1-17 remain pending and are hereby presented for examination.
2. Quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action may be found in previous office action.
3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armitage et. al. (Armitage) U.S. Patent No. 6,347,303 in view of Aggarwal et. al. U.S. Patent No. 6,330,614.

Regarding claim 1, Armitage teaches a system/method related to using a Label Distribution Protocol (LDP) to establishes label switched paths, including,

mapping, associating correlating or binding a first (routing) label from an upstream neighboring device to a second (routing) label from an downstream neighboring device (col 10/lines 52-59, col 10/line 64col11/line 5);

receiving from said upstream neighboring device a protocol message including said first label (col 3/lines 34-38):

swapping said first label with said second label in said protocol message (label swapping, adding-removing labels, col 16/lines 17-33); and

forwarding said protocol message to said downstream neighboring (next hop) device (col 3/line 34-38, col 2/lines 30-33);

however the prior art of record does not explicitly teach wherein said upstream and downstream neighboring devices are in a respective first and second autonomous systems;

Aggarwal teaches a system/method related to using a Label Distribution Protocol to establishes label switched paths (col 8/lines 1-18), teaching combining neighboring devices into autonomous systems and assigning a unique number to each system (col 11/lines 40-51), wherein a first label from an upstream neighboring device of a first autonomous system is mapped to a second label from an downstream neighboring device in a second autonomous system (Fig. 10) (col 11/lines 51-col 12/line 12, lookup mapping, col 4/lines 54-col 5/line 16);

It would have been obvious to one ordinary skilled in the art at the time the invention was made include autonomous systems using the network address assigned number to support multiple networks interconnected via edge and core router devices, as suggested by Armitage.

Regarding claim 2, including features previously discussed and further establishing an incoming label switched path over said first autonomous system (Armitage: col 3/lines 61-col 3/line 7);

associating said first label with said incoming label switched path (Armitage: col 34-38);
establishing an outgoing label switched path over said second autonomous system (label switched path egress, col 14/lines 31-45, label switched patch egress, col 3/lines 20-33);

learning said second label associated with said downstream neighboring (next hop) device in said second autonomous system (Armitage: col 2/lines 45-60).

Regarding claim 3, using a LDP to set up said outgoing label switched path to a downstream neighboring border device (Armitage: col 3/line 50-60, setup, col 4/line 46-51, Aggarwal: group neighboring devices in autonomous system neighboring devices into autonomous systems and assigning a unique number to each system col 11/lines 40-51).

Regarding claim 4, establishing a LDP session with said downstream neighboring (next hop) device (Armitage: col 2/lines 45-60); and receiving said second label associated with said downstream neighboring (next hop) device in said second autonomous system via said LDP session (Armitage: col 2/lines 45-60).

Regarding claim 5, creating/maintaining in said label information base a label information base entry mapping said first label of from said first autonomous system to said second label in said second autonomous system (Armitage: col 10/lines 52-59).

Regarding claim 6, comprising the device for establishing a label switched path across multiple autonomous systems, the device comprising: the logic to perform the method discussed on claim 1, rejected for obviousness under U.S.C. 103, this same rationale is also applied to apparatus and logic means claims.

Regarding claim 7, comprising the device for establishing a label switched path across multiple autonomous systems, the device comprising: the logic to perform the method discussed on claims 1-2, rejected for obviousness under U.S.C. 103, this same rationale is also applied to apparatus and logic means claims.

Regarding claim 8, second label switched path establishing logic comprises LDP logic (Armitage: col 10/line 52-59).

Regarding claim 9, establish a LDP session with said downstream neighboring (next hop) device and receive said second label associated with said downstream neighboring (next hop) device in said second autonomous system via said LDP session (Armitage: col 2/line 50-60, col 10/line 52-59).

Regarding claim 10, label information base, wherein said mapping logic is operably coupled to create in said label information base a label information base entry mapping said first label from said first autonomous system to said second label in said second autonomous system (Armitage: col 10/line 52-59).

Regarding claim 11, comprising the program product comprising a computer readable medium having embodied therein a computer program for performing the method discussed on claim 1, rejected for obviousness under U.S.C. 103, this same rationale is also applied to computer program product and logic means claims.

Regarding claim 12, comprising the program product for performing the method discussed on claims 1-2, rejected for obviousness under U.S.C. 103, this same rationale is also applied to program product and logic means claims.

Regarding claim 13, substantially the same as claims 8 and 3, rejected for obviousness under U.S.C. 103, this same rationale is also applied to program product and logic means claims.

Regarding claim 14, substantially the same as claims 9 and 4, rejected for obviousness under U.S.C. 103, this same rationale is also applied to program product and logic means claims.

Regarding claim 15, substantially the same as claims 10 and 5, rejected for obviousness under U.S.C. 103, this same rationale is also applied to program product and logic means claims.

Regarding claim 16, a communication system comprising a plurality of autonomous systems (e.g. EGP 1 & EPG 2), each autonomous system having at least an edge or border device (routers linked via Net M connecting said autonomous systems) that is shared with another autonomous system, wherein the

shared border device links an incoming label switched path from an incoming autonomous system to an outgoing label switched path in an outgoing autonomous system (Aggarwal: Fig. 10, vol 7/lines 64-col 8/line 12, using LDP to map outgoing label switched path to incoming label switch path associated with downstream neighboring border device (Aggarwal: mapping outgoing label switch path to incoming switch path, col 4/lines 60-col 5/line 8, learning, col 5/lines 58-col 6/line 21, determining the egress path based, col 6/lines 49-55, Armitage: col 2/lines 50-60, col 4/lines 46-51).

Regarding claim 17, an information base comprising at least one entry mapping a first label from a first autonomous system to a second label in a second autonomous system (Armitage: col 10/lines 52-59).

Response to arguments

4. It is argued that (a) there is no motivation shown nor there is a motivation suggested by the reference, because according to applicant the Aggarwal reference suggested the elimination of MPLS (column 5, line 25-26) & teaches problems associated with label distribution protocols (column 8, lines 60-col 9, line 3), therefore applicant on this basis argues that there is no motivation to combine the references Aggarwal and Armitage.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case although a motivation was shown, and the motivation was suggested by the reference, it is added that Armitage suggest the disclosed patent invention applicable for used on MPLS or any other form of label-based multi-protocol routing (col 1/lines 55-59) and Aggarawal teaches a system/method for decreasing the processing time for autonomous system numbers, based on a higher layer protocol based routing information (including MPLS) (abstract). Arguments that there is no motivation shown nor there is a motivation suggested by the reference are not persuasive.

5. It is argued (b) in regards to claims 1-5, that prior art does not teach claim limitation as recited, specifically, claim 1.

In response to applicant's argument prior art teaches; mapping, associating correlating or binding a first (routing) label from an upstream neighboring device to a second (routing) label from a downstream neighboring device (col 10/lines 52-59, col 10/line 64-col 11/line 5); receiving from said upstream neighboring device a protocol message including said first label (col 3/lines 34-38); swapping said first label with said second label in said protocol message (label swapping, adding-removing labels, col 16/lines 17-33); and forwarding said protocol message to said downstream neighboring (next hop) device (col 3/line 34-38, col 2/lines 30-33).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a field that is not separate to identify the AS, the only remaining field of the MPLS header, the label field may be included in the checksum, creating a new protocol, which avoid the protocol defined by MPLS and instead the current IP header may be used to accomplish this same function", and using labels to cross AS boundaries") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In regards to further arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Aggarwal teaches a system/method related to using a Label Distribution Protocol to establishes label switched paths (col 8/lines 1-18), teaching combining neighboring devices into autonomous systems and assigning a unique number to each system (col 11/lines 40-51), wherein a first label from an upstream neighboring device of a first autonomous system is mapped to a second label from a downstream neighboring device in a second autonomous system (Fig. 10) (col 11/lines 51-col 12/line 12, lookup mapping, col 4/lines 54-col 5/line 16).

6. Applicant's arguments filed 01/03/03 have been fully considered but not rendered persuasive.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Related U.S. Patents & Non patent literature:

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; pertinence is presented in accordance with to MPEP§ 707.05. Copies of documents cited will be provided as set forth in MPEP§ 707.05(a):

U.S. Patent No. 6,330,614 (12-2001)

Aggarwal et. al. teaches a method/system for substitute use of the normal checksum field space in information processing (IP) datagram headers for obviating current processing time and addressing space limitations, involving replacing the current checksum usage in the checksum field with its attendant processing time with further source host and destination host addresses of lesser processing time, thereby increasing the address space for the network and decreasing the require header processing time, and/or providing space for autonomous system numbers, a higher layer protocol-based routing information (including of the MPLS type) or for Virtual Private Networks identifiers in the header.

U.S. Patent No. 6,339,595 (01-2002)

Rekhter et. al. teaches the use of an Autonomous System Number (ASN) whenever a system has a BGP connection of any sort, this is a number that the assigned number authority issues so that independently administered systems can identify each other when they use an external routing protocol. Wherein an "autonomous system" (AS) is a system under administration separate from others, and connection among an AS's hosts, whether direct or indirect, must be possible by way of the AS's resources only. "Multi-Protocol Label Switching (MPLS)" [1,2,9] requires a set of procedures for augmenting network layer packets with "label stacks" (sometimes called "tag stacks"), thereby turning them into "labeled packets". Routers, which support MPLS, are known as "Label Switching Routers", or "LSRs". When a label is popped, and the resulting label stack is empty, then the value of the IP TTL field MUST BE replaced with the outgoing TTL value, as defined above. In IPv4 this also requires modification of the IP header checksum .

RFC 2547: BBGP/MPLS VPNs, Rosen, E.; Rekhter, Y., Cisco Systems, INC. 03-1999, pages 1-25.

Rosen et. al. teaches the use of an Autonomous System Number (ASN) as a number that the assigned number authority issues so that independently administered systems can identify each other when they use an external routing protocol. An "autonomous system" (AS) is a system logically separate from others, and connection among an AS's hosts, whether direct or indirect, must be possible by way of the AS's resources only. "Multi-Protocol Label Switching (MPLS)" augments the network layer packets turning them into "labeled packets".

9. Prosecution of this application is closed by means of this final office action § 1.113, applicant may request continued examination of the application by filing a Request for Continued Examination of under 37 CFR § 1.114 and providing the corresponding fee set forth in § 1.17(e) for the submission of, but not limited to, new arguments, an information disclosure statement, an amendment to the written description, claims, drawings, or new evidence in support of patentability. Or applicant whose claims have been twice rejected, may appeal from the decision of the administrative patent judge to the Board of Patent Appeals and Interferences under 35 U.S.C. §134.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Mark R. Powell can be reached on (703) 305-9703. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this final action should be mailed to:

Box AF

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B. Prieto
TC 2100
Patent Examiner
April 1, 2003


MARK R. POWELL
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